

CLAIMS

1. Device for effecting radiation treatment of benign or malign prostate hyperplasia in a prostate of a human male having a bladder with a base and a penis with an urethra having an urethral wall extending from the base of the bladder through the prostate, said device comprising:

- a catheter probe having an elongated body with a circumferential surface, a distal end and a proximal end, which catheter probe is to be inserted with its proximal end within the urethra towards the prostate;

- said elongated body of said catheter probe having a longitudinal bore extending from said distal end towards at least one outlet opening present in said circumferential surface near said proximal end;

- a catheter tube having a distal end and a proximal sharp end, which catheter tube is to be inserted with its proximal sharp end through said longitudinal bore of said elongated body, said outlet opening and through said urethral wall towards at least one desired location within the prostate to be treated; and

- means for delivering a certain pre-planned amount of radiation energy via said catheter tube near or at said at least one location within said prostate for effecting said radiation treatment, **characterized in that** said catheter probe is movable accommodated within an urethral probe to be inserted within said urethra.

2. Device according to claim 1, **characterized in that** said catheter probe is movable in longitudinal and/or rotational direction within said urethral probe.

3. Device according to claim 1, **characterized in that** said urethral probe consists of an elongated probe body having a distal end and a proximal end to be inserted within said urethra, said elongated

probe body being provided with a longitudinal urethral probe bore for accommodating said catheter probe.

4. Device according to claim 3, **characterized in that** the inner dimensions of said longitudinal urethral probe bore are equal or slightly larger than the outer dimensions of said catheter probe.

5. Device according to claim 1, **characterized in that** catheter probe drive means are present for moving said catheter probe in longitudinal and/or rotational direction within said urethral probe.

6. Device according to claim 1, **characterized in that** catheter tube drive means are present for moving said catheter tube in longitudinal direction within said catheter probe.

7. Device according to claim 1, **characterized in that** said catheter tube is a flexible tube having a proximal sharp end.

8. Device according to claim 7, **characterized in that** said means for delivering said radiation energy comprise at least one wire having a distal end and a proximal end; and at least one energy emitting source to be inserted by means of said proximal end of said wire through said catheter tube towards said location within the prostate to be treated.

9. Device according to claim 8, **characterized in that** said means for delivering said radiation energy further comprise means for inserting said at least one energy emitting source within said catheter tube.

10. Device according to claim 9, **characterized in that** said means for delivering said radiation energy furthermore comprise wire drive means for moving said wire together with said at least one energy emitting source through said catheter tube towards said location within the prostate to be treated.

11. Device according to claim 1, **characterized in that** said elongated body of said urethral probe is made of a flexible material.

12. Device according to claim 1, **characterized in that** said

urethral probe is made of a partly rigid material.

13. Device according to claim 1, **characterized in that** said elongated body of said urethral probe is build as a grating of a plurality of filaments.

5 14. Device according to claim 13, **characterized in that** said filaments are made of a rubber material or bioabsorbable material.

15. Device according to claim 13, **characterized in that** said filaments are made of a metal material.

10 16. Device according to claim 15, **characterized in that** said grating of said plurality of metal filaments is provided with a tissue friendly coating, e.g. a rubber material coating.

17. Device according to claim 16, **characterized in that** said rubber material coating is made of polyurethane.

15 18. Device according to claim 1, **characterized in that** the insertion and positioning of said catheter tube, and/or said proximal needle, and/or said wire together with said at least one energy emitting source through said catheter probe towards said at least one desired location within the prostate to be treated is monitored and controlled by a computer program according to a planning information delivered by a treatment planning program using imaging information delivered by imaging means positioned within the rectum of the human male.

20 19. Device according to claim 18, **characterized in that** the catheter probe drive means for positioning said catheter probe within said urethral probe are controlled by means said imaging means and at least one computer planning treatment system.

25 20. Device according to claim 1, **characterized in that** said at least one energy emitting source is a radioactive source.

30 21. Device according to claim 1, **characterized in that** said at least one energy emitting source is a high dose rate or pulse dose rate source.

22. Device according to claim 1, **characterized in that** said at

least one energy emitting source is an antenna of a variable length emitting radiowaves.